Remarks

Claims 24-25 have been objected to as being of improper dependent form. The dependency of Claim 24 has been changed to Claim 20 obviating this rejection.

With respect to Claim 8, that claim has been amended to recite the presence of a nozzle thereby providing antecedent basis.

With respect to the Examiner's query regarding the difference between a burner barrel and a burner assembly, the Examiner's attention is respectfully directed to page 5 of the specification, and in particular lines 9 *et seq* where it is pointed out that the first side 52 of the mounting plate 50 and the liner 44 at least partially form a burner barrel defining a combustion chamber 53. The burner assembly as taught on page 8, line 16 *et seq* and with reference to Figs. 5 and 6 comprises a burner tube 40 secured to the mounting plate 50, there being a burner assembly vane 42 which is a disc 144 with a series of angle slots 146 therethrough. Basically, the burner assembly is a combination of the nozzle which extends through the disc 44, air from the plenum flowing through the slots 146, fuel flowing through the nozzle held by the nozzle holder 152. It is hoped that the above description adequately explains the difference between the burner barrel and the burner assembly.

Turning to the art rejections, Claim 1 stands rejected as being anticipated by Sujata et al (Sujata). Claim 1 has been amended to incorporate the limitation of Claim 4. Since the Examiner has indicated the allowability of Claims 2-6, 10-12 and 15-17 if rewritten in independent form, it is respectfully submitted that all those claims are now in condition for

allowance.

Claims 7-9, 13-14, and 18-19 stand rejected as obvious over Sujata in view of Faulkner. Since Claim 1 as now amended is clearly patentable over Sujata, and since Claim 7-9, 13-14, and 18-19 depend upon Claim 1, it is respectfully submitted that those claims are likewise patentable over the combination of Sujata and Faulkner. More specifically, the reference to Faulkner does not cure any of the infirmities of Sujata as applied to amended Claim 1.

Submitted with this Amendment are new independent Claims 26 and 27. Claim 26 calls for the air from the inlet to pass through the first and second flow passages before entering the plenum disposed on the second side of the mounting plate. Sujata neither discloses nor suggest structure whereby this can occur. In Sujata, as best seen in Fig. 1, air entering from duct 24 can not only enter passageway 34, but since passageway 34 is in direct open communication with plenum 44, it can also be introduced directly into plenum 44 without having to pass through passages 34 or the tubes 36 forming the heat exchanger. In other words, air from duct 24 can directly enter plenum 44. In Applicant's structure, as recited in Claim 26, the air must pass through the first and second flow passages before entering the plenum ensuring that the air in the plenum is preheated. It is clear that in the Sujata structure, air from the duct 24 entering the plenum 44 will not be preheated by passing through the first and second passageways, any such heating of air in the plenum 44 occurring by virtue of combustion gases flowing through the tubes making

up exchanger 36 into the plenum 44. In any event, Claim 26 clearly distinguishes over Sujata.

With respect to Claim 27, that claim recites that any air flowing into the plenum from the second flow passage is heated by combustion gases formed in the burner barrel prior to entering the plenum. This is not true in Sujata. Once again, since air from duct 24 can immediately enter plenum 44, it will not be heated prior to entering the plenum albeit that it may be heated once it is in the plenum by the combustion gases flowing through the tubes 36. Since Claim 27 recites that any air flowing in to the plenum from the second flow passage is heated by combustion gases formed in the burner barrel prior to entering the plenum, Claim 27 is clearly distinguishable over Sujata. Support for Claims 26 and 27 can be found in the drawings, in particular Figs. 1 and 2, and in the specification at page 9, line 20 - page 10, line 11.

It is respectfully submitted Claims 26, 27, and 28-45 are patentable over Sujata and Faulkner alone, or in combination.

Applicant notes with appreciation the allowability of Claims 20-23. In view of the foregoing amendments or remarks, it is respectfully submitted that all other remaining claims are in condition for allowance which is hereby earnestly solicited and respectfully requested.

Respectfully submitted,

C. James Bushman
Reg. No. 24,810

Date: December 20, 2004

BROWNING BUSHMAN
5718 Westheimer, Suite 1800
Houston, TX 77057
Tel.: (713) 266-5593
Fax: (713) 266-5169

CERTIFICATE OF MAILING

I certify that this document and fee is being deposited with the U.S. Postal Service as first class mail under 37 C.F.R. 1.8 and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on December 20, 2004.

By: _____
Cathy Hayes

C:\Client_cth\cjb\L&S\1amendment.wpd